

Document made available under the Patent Cooperation Treaty (PCT)

International application number: PCT/US05/001942

International filing date: 21 January 2005 (21.01.2005)

Document type: Certified copy of priority document

Document details: Country/Office: US
Number: 60/578,190
Filing date: 09 June 2004 (09.06.2004)

Date of receipt at the International Bureau: 21 February 2005 (21.02.2005)

Remark: Priority document submitted or transmitted to the International Bureau in compliance with Rule 17.1(a) or (b)



World Intellectual Property Organization (WIPO) - Geneva, Switzerland
Organisation Mondiale de la Propriété Intellectuelle (OMPI) - Genève, Suisse

1285282

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

February 15, 2005

THIS IS TO CERTIFY THAT ANNEXED HERETO IS A TRUE COPY FROM THE RECORDS OF THE UNITED STATES PATENT AND TRADEMARK OFFICE OF THOSE PAPERS OF THE BELOW IDENTIFIED PATENT APPLICATION THAT MET THE REQUIREMENTS TO BE GRANTED A FILING DATE.

APPLICATION NUMBER: 60/537,670

FILING DATE: *January 20, 2004*

RELATED PCT APPLICATION NUMBER: *PCT/US05/01942*



Certified by

Under Secretary of Commerce
for Intellectual Property
and Director of the United States
Patent and Trademark Office



15866 U.S. PTO

012004

JOHNSON & STAINBROOK, LLP
Registered Patent Attorneys
Patents, Trademarks, Copyrights
And Related Matters

Marin County Office:
165 N. Redwood Dr.
Suite 110
San Rafael, CA 94903
TEL: (415) 499-8822
FAX: (415) 472-4347

Sonoma County Office:
3550 Round Barn Blvd.
Suite 203
Santa Rosa, CA 95403
TEL: (707) 578-9333
FAX: (415) 578-3133

January 20, 2004

COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, VA 22313-1450

15535 U.S. PTO
60/537670



012004

Sir:

Transmitted herewith for filing is the Provisional Patent Application (35 U.S.C. §111) of inventor Lester M. Schwab, having a residence and address of 2479 Royal Oaks Drive, Alamo, CA 94507, for an IV COMPATIBLE LIMB STABILIZATION APPARATUS.

Enclosed are the following:

Specification (10 pages);

Drawings (6 pages);

Credit Card Payment Form for the filing fee of \$80.00 (Applicant is entitled to Small Entity Status).

Please direct all correspondence to the undersigned.

Very truly yours,

Larry D. Johnson
Registration #31,528
Attorney for Applicant
Johnson & Stainbrook LLP
3550 Round Barn Blvd., Suite 203
Santa Rosa, CA 95403

LDJ:bms

Enc.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Provisional Patent Application

IV COMPATIBLE LIMB STABILIZATION APPARATUS

Inventor:
Lester M. Schwab

CERTIFICATE OF MAILING BY U.S.P.S. EXPRESS MAIL

EV 288034055

Mailing Label Number

20 Jan. 2004

Date of Deposit

The undersigned hereby certifies that this Patent Application is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" in accordance with the provisions of 37 CFR Section 1.10 on the date indicated above, and is addressed to:

Mail Stop PROVISIONAL PATENT APPLICATION

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450



Larry D. Johnson, Registration No. 31,528

JOHNSON & STAINBROOK, LLP

3550 Round Barn Blvd., Suite 203

Santa Rosa, California 95403

707.578.9333

Attorney Docket No. 00861.P1

IV COMPATIBLE LIMB STABILIZATION APPARATUS

Inventor: Lester M. Schwab

5 CROSS REFERENCE TO RELATED APPLICATIONS

[0001] Not applicable.

10 STATEMENT REGARDING FEDERALLY SPONSORED
RESEARCH OR DEVELOPMENT

[0002] Not applicable.

15 REFERENCE TO A MICROFICHE APPENDIX

[0003] Not applicable.

20 TECHNICAL FIELD

[0004] The present invention relates generally to veterinary and medical implements, and more particularly to an improved limb stabilization apparatus or splint.

20 BACKGROUND INFORMATION AND DISCUSSION OF RELATED ART

[0005] Medical conditions in companion animals may require the placement of intravenous catheters and fluid therapy. In most instances the cephalic vein in the foreleg is used.

[0006] Such catheters have been placed in companion animals in the same manner for sixty plus years, and during this time frame various methods of leg restraint have been attempted but none have worked well, and all but one have placed the restraint ventrally on the foreleg.

[0007] Three basic problems exist:

5 [0008] Animals will attempt to chew out or pull out the IV catheter necessitating that it be replaced in the opposite leg causing additional discomfort to the patient and increased cost to the doctors and pet owner.

[0009] If the animal lays down and/or bends the leg more than 45 degrees it will slow down or stop the IV fluid flow causing an insufficient amount of fluid to be delivered. If the flow stops a
10 clot may form, necessitating flushing the line out or replacing in the other leg again, causing increased discomfort to the patient and additional cost to the doctors and to the owner. It is not uncommon to inadvertently pull out the catheter while attempting to flush the catheter.

[0010] Most restraints attach ventrally and may immobilize the elbow. Such restraints make it difficult for the animal to stand and extremely uncomfortable to sit or lay down. If the animal
15 attempts to lie down it must do so by stretching the leg straight out from the shoulder area.

[0011] Applicant is aware of the following references related to the present invention:

[0012] US Patent Nos. 4,505,270;

[0013] 5,925,005;

[0014] 4,440,159;

20 [0015] 6,224,571;

[0016] 6,213,979;

[0017] 3,881,472;

[0018] 5,131,412;

[0019] 3,812,851;

[0020] 3,256,880;

5 [0021] 5,134,992;

[0022] 4,489,716;

[0023] 4,361,143; and

[0024] 4,612,925.

[0025] The foregoing patents reflect the current state of the art of which the present inventor is
10 aware. Reference to, and discussion of, these patents is intended to aid in discharging Applicant's
acknowledged duty of candor in disclosing information that may be relevant to the examination
of claims to the present invention. However, it is respectfully submitted that none of the above-
indicated patents disclose, teach, suggest, show, or otherwise render obvious, either singly or
when considered in combination, the invention described and claimed herein.

15

BRIEF SUMMARY OF THE INVENTION

[0026] The present invention provides an improved limb stabilization apparatus or splint for
use with intravenous therapy, providing fast and easy limb stabilization and fast and easy access
to the union of an IV Catheter and Primary IV Set. The inventive apparatus is specifically
20 designed for use with animals, but also may have human application, particularly for pediatric
medicine, sedated patients, and patients in restraint for whatever reason.

*Applicant: Lester M. Schwab
For: IV Compatible Limb Stabilization
Apparatus
Attorney Docket No: 00861.PI*

*Filing Date:
Priority Date:
Express Mail No:*

[0027] The principal object of the invention is to provide an inexpensive method of leg restraint allowing free movement of the foreleg with the ability for the patient to stand, sit, or lay down easily and without discomfort, while simultaneously preventing bending the leg more than 45 degrees so as to allow a free flow of IV fluids.

5 [0028] This invention allows for decreasing the amount of taping required to secure the union of the IV Catheter and Primary IV Set. The less tape used the less likely it would be to inadvertently dislodge the IV Catheter while reaching this union to flush the IV Catheter.

[0029] Present methods of leg restraint place plastic splints ventrally on the leg, which, if attached both below and above the elbow severely restrain the animals ability to move about and are very uncomfortable. Only one known prior art splint (US Patent No. 4,440,159 to Cochran) does not use the ventral approach, but this method is extremely uncomfortable and does not work properly as the splint slips off of the shoulder.

10 [0030] The present invention provides a novel splint apparatus which is easily placed dorsally on the foreleg with minimal discomfort, as there is no weight bearing and no restraint above the elbow. The animal may move about freely, lay or stand or sit but cannot flex the leg more than 45 degrees, allowing for the IV solutions to flow freely.

[0031] It is therefore an object of the present invention to provide a new and improved limb stabilization apparatus or splint for IV therapy.

15 [0032] It is another object of the present invention to provide a new and improved limb stabilization apparatus that is fast and easy to apply and allows for quick and easy access to the union of the IV Catheter and Primary IV Set.

[0033] A further object or feature of the present invention is a new and improved splint that permits comfortable movement by the patient.

[0034] An even further object of the present invention is to provide a novel splint apparatus that ensures a free flow of IV fluids.

5 [0035] Other novel features which are characteristic of the invention, as to organization and method of operation, together with further objects and advantages thereof will be better understood from the following description considered in connection with the accompanying drawings, in which preferred embodiments of the invention are illustrated by way of example. It is to be expressly understood, however, that the drawings are for illustration and description only
10 and are not intended as a definition of the limits of the invention. The various features of novelty which characterize the invention are pointed out with particularity in the claims annexed to and forming part of this disclosure. The invention resides not in any one of these features taken alone, but rather in the particular combination of all of its structures for the functions specified.

[0036] There has thus been broadly outlined the more important features of the invention in
15 order that the detailed description thereof that follows may be better understood, and in order that the present contribution to the art may be better appreciated. There are, of course, additional features of the invention that will be described hereinafter and which will form additional subject matter of the claims appended hereto. Those skilled in the art will appreciate that the conception upon which this disclosure is based readily may be utilized as a basis for the designing of other
20 structures, methods and systems for carrying out the several purposes of the present invention. It is important, therefore, that the claims be regarded as including such equivalent constructions

insofar as they do not depart from the spirit and scope of the present invention.

[0037] Further, the purpose of the Abstract is to enable the U.S. Patent and Trademark Office and the public generally, and especially the scientists, engineers and practitioners in the art who are not familiar with patent or legal terms or phraseology, to determine quickly from a cursory inspection the nature and essence of the technical disclosure of the application. The Abstract is neither intended to define the invention of this application, which is measured by the claims, nor is it intended to be limiting as to the scope of the invention in any way.

[0038] Certain terminology and derivations thereof may be used in the following description for convenience in reference only, and will not be limiting. For example, words such as "upward," "downward," "left," and "right" would refer to directions in the drawings to which reference is made unless otherwise stated. Similarly, words such as "inward" and "outward" would refer to directions toward and away from, respectively, the geometric center of a device or area and designated parts thereof. References in the singular tense include the plural, and vice versa, unless otherwise noted.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

[0039] The invention will be better understood and objects other than those set forth above will become apparent when consideration is given to the following detailed description thereof. Such description makes reference to the annexed drawings wherein:

[0040] FIGS. 1 - 3 illustrate the securing of the IV Catheter;

[0041] FIGS. 4 - 6 illustrate the taping required with prior art methods;

[0042] FIGS. 7A - 7F illustrate the inventive splint apparatus; and

[0043] FIGS. 8 - 11 illustrate the application of the inventive splint.

DETAILED DESCRIPTION OF THE INVENTION

5 [0044] Referring to FIGS. 1 through 11, wherein like reference numerals refer to like components in the various views, there is illustrated therein a new and improved IV compatible limb stabilization apparatus, generally denominated 10 herein.

[0045] FIGS. 1 - 3 illustrate that only the securing of the IV Catheter is necessary with the present invention, and not the massive taping of catheter hub and connection to the Primary IV
10 Set of the prior art (FIGS. 4 - 6).

[0046] FIGS. 7A - 7F illustrate the inventive splint. The splint is preferably made of plastic with an angle of 45 degrees at the elbow portion and arms ventral to that angle that are marked at one cm. intervals allowing the doctor or tech to cut the length to suit the majority of patients. Three sizes will accommodate the majority of dogs and cats. Above the elbow the device widens
15 so as to capture the shoulder when the patient attempts to move the arm more than 45 degrees. Only that portion below the elbow is taped and that with a wide tape that sticks only to itself so as to make it easier to reach the union of IV Catheter and Primary IV Set to change solutions or flush out (see FIGS. 8 - 11).

[0047] The plastic arms of the splinting device that straddle the IV Catheter and the wide non-stick tape protects the union of IV Catheter and Primary IV Set, provides a barrier to chewing or
20 pulling out of catheter, and prevents excess bending of the foreleg which allows for a free flow of

IV fluids.

[0048] Above and below elbow splints have concavity to shape to the leg.

[0049] The splints are re-usable and washable.

[0050] A below elbow apparatus of the invention could be marked at ½ inch levels so that
5 doctors or tech may cut the splint to the proper size for the patient.

[0051] Medial sides of the splint could include a small ridge (e.g., 1/8 inch) to assist in
preventing “chew out.”

[0052] The above disclosure is sufficient to enable one of ordinary skill in the art to practice
10 the invention, and provides the best mode of practicing the invention presently contemplated by
the inventor. While there is provided herein a full and complete disclosure of the preferred
embodiments of this invention, it is not desired to limit the invention to the exact construction,
dimensional relationships, and operation shown and described. Various modifications, alternative
15 constructions, changes and equivalents will readily occur to those skilled in the art and may be
employed, as suitable, without departing from the true spirit and scope of the invention. Such
changes might involve alternative materials, components, structural arrangements, sizes, shapes,
forms, functions, operational features or the like.

[0053] Therefore, the above description and illustrations should not be construed as limiting
the scope of the invention, which is defined by the appended claims.

CLAIMS

What is claimed as invention is:

1. (Deferred)

5

10

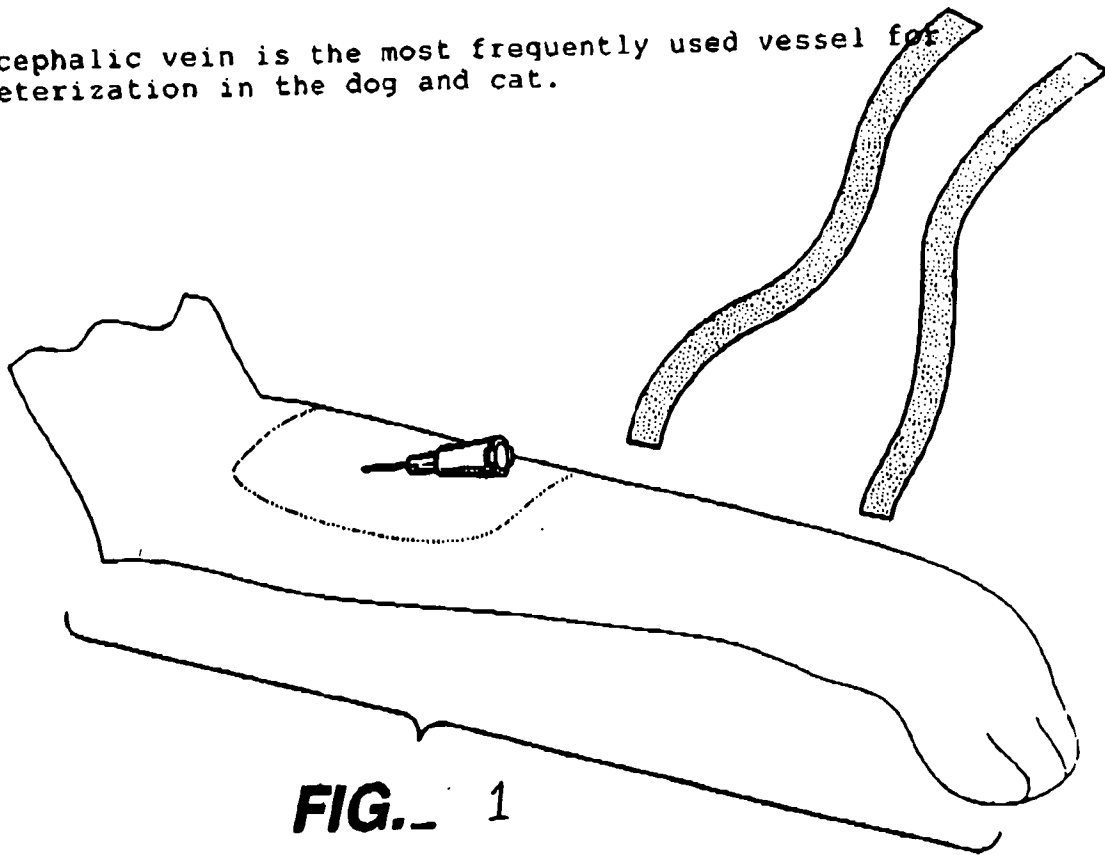
IV COMPATIBLE LIMB STABILIZATION APPARATUS

ABSTRACT OF THE DISCLOSURE

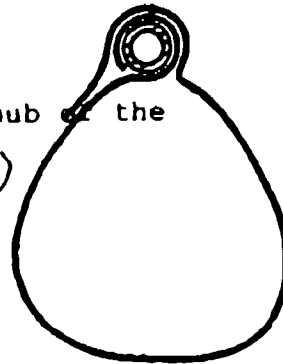
5 [0054] A splint apparatus which is easily placed dorsally on the foreleg with minimal discomfort, as there is no weight bearing and no restraint above the elbow. The animal may move about freely, lay or stand or sit but cannot flex the leg more than 45 degrees, allowing for the IV solutions to flow freely.

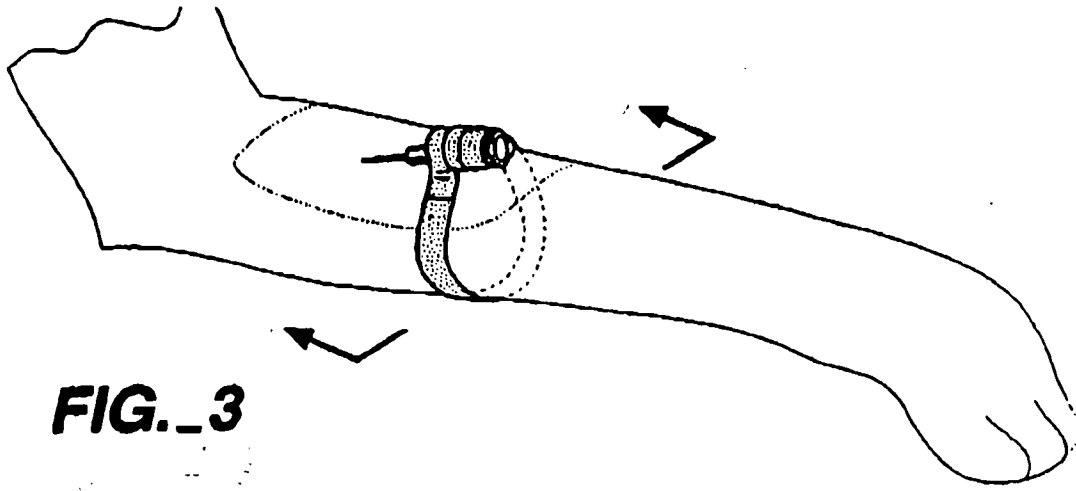
+

The cephalic vein is the most frequently used vessel for catheterization in the dog and cat.

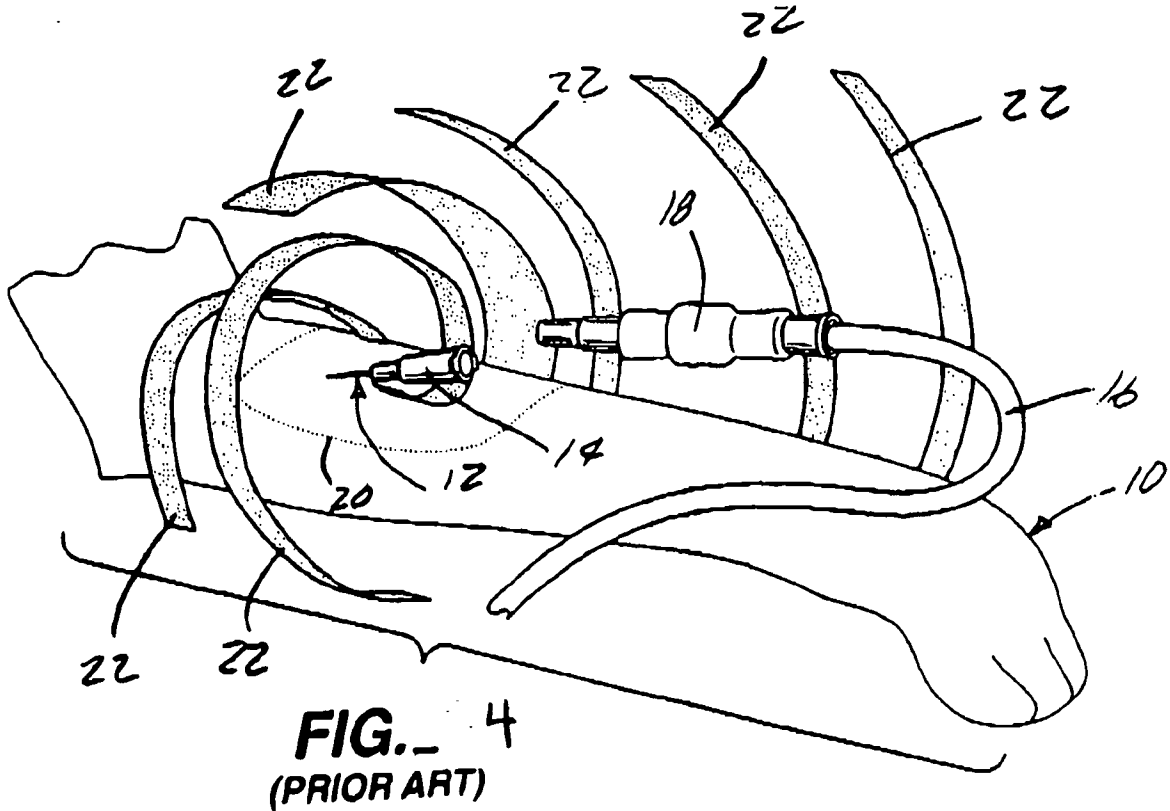
**FIG. 1**

Once the catheter is in place the hub of the needle is taped and then that tape is wound around the leg (See FIG 3)

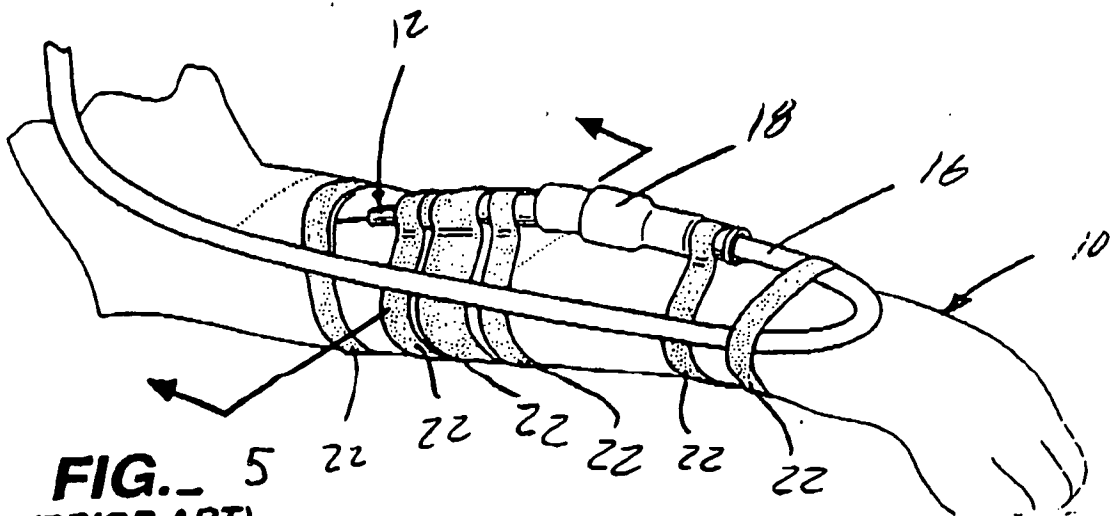
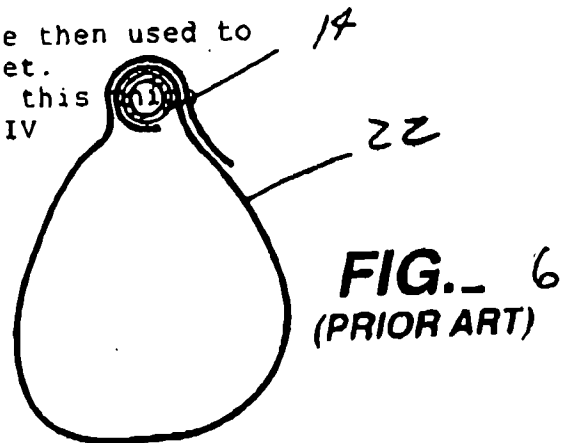
**FIG. 2**

**FIG._3**

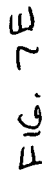
Then the male end of the Primary IV Set is joined to the catheter hub.



Massive amounts of adhesive tape are then used to secure IV catheter and Primary IV Set. The end result is inability to view this union and the probability that the IV catheter will inadvertently be dislodged when removing tape to flush catheter or change IV solutions. This results in placing another catheter in opposite leg, continuing discomfort to the patient and increased costs to the owner.

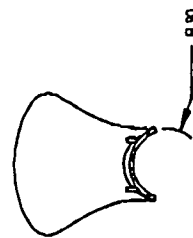


THIS DOCUMENT CONTAINS CONFIDENTIAL PROPRIETARY INFORMATION. DO NOT DISCLOSE TO OR REPLICATE FOR OTHERS EXCEPT AS AUTHORIZED BY EXPERTISE ENGINEERING.



TRUE P2.20

100



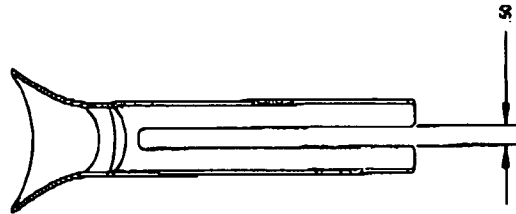
19.99

415.74

WATERWAY: ARS TYPE TRD COM CR. TRD

2. WALL THICKNESS: 0.125 UNLESS SHOWN OTHERWISE. MAX INTERNAL RADIUS 0.01 UNLESS SHOWN OTHERWISE.

3.3. ALL TOOL FEATURES TO BE APPROVED BY CUSTOMER IN WRITING. TOOL TO BE LABELED WITH CUSTOMERS PM AND COMPANY NAME IN AN INDELEIBLE MANNER



FILE 7B

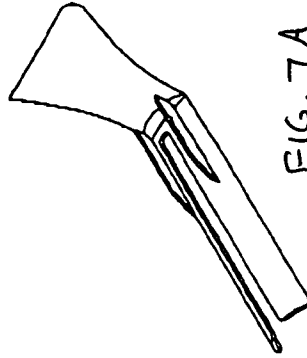


FIG. 7A

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MILLIMETERS		DO NOT SCALE DRAWING		EXPERTISE ENGINEERING			
TOLERANCES		DIMENSIONS		TEL 911-1915 WWW.UPE-ENG.COM FAX 129-211712			
X ± 0.2	ANGLES X ± 0.1	TOLERANCES	DIMENSIONS	100000/0001	STABILIZER SIZE LG		
X ± 1	X ± 1.5						
MATERIAL		SEE NOTES		PROTOTYPE SKETCH FOR REVIEW ONLY			
FINISH		SEE NOTES		SHEET 1 OF 1			

EXPERTISE ENGINEERING

800-911-7175 WWW.DZ5G.COM FAX 1508-211-7770

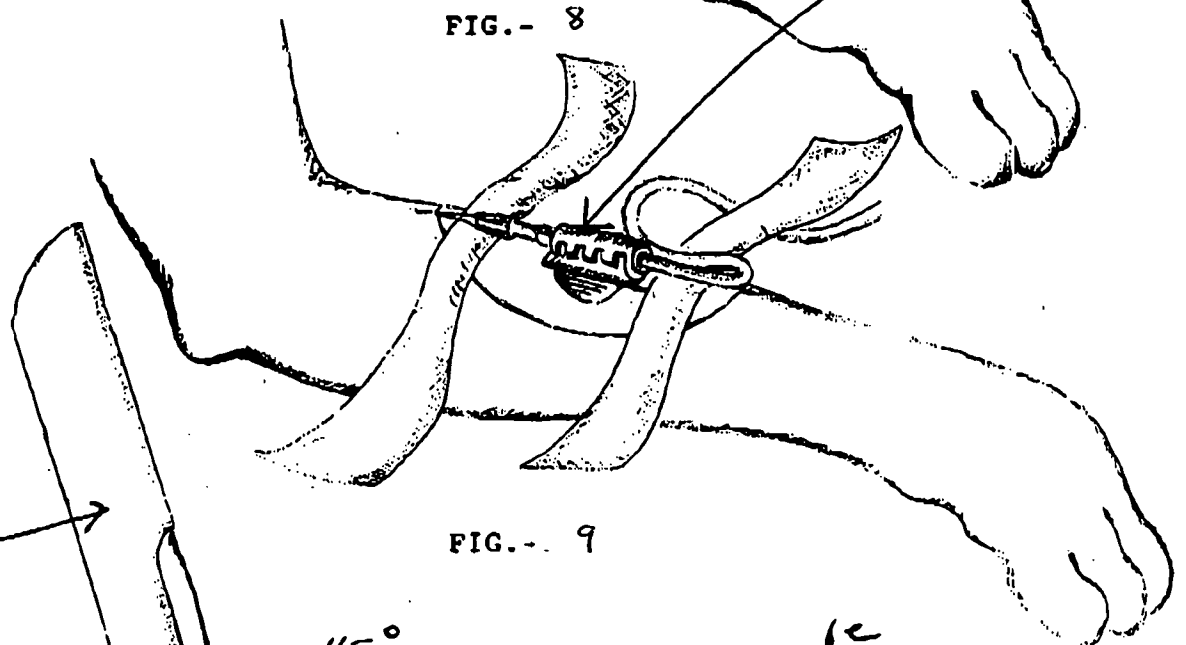
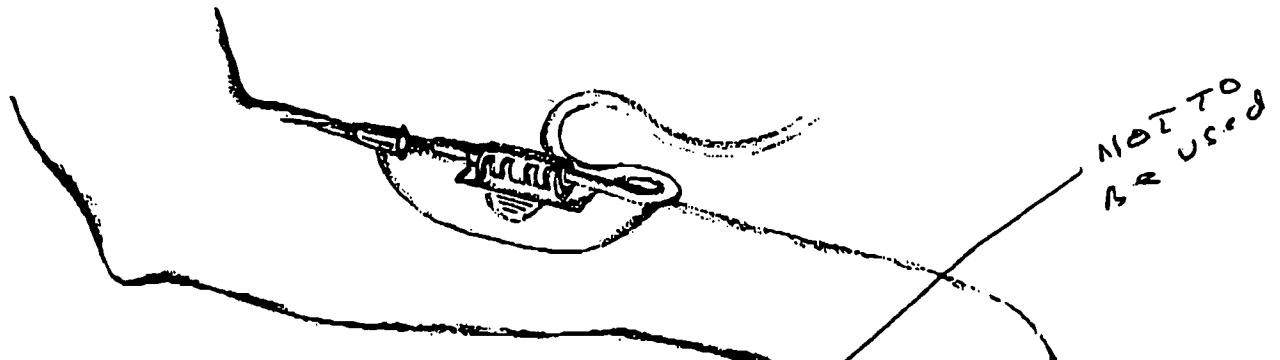
STAPLE CITE

**STABILIZER, SIZE LG
PROTYPE SKETCHES FOLLOW**

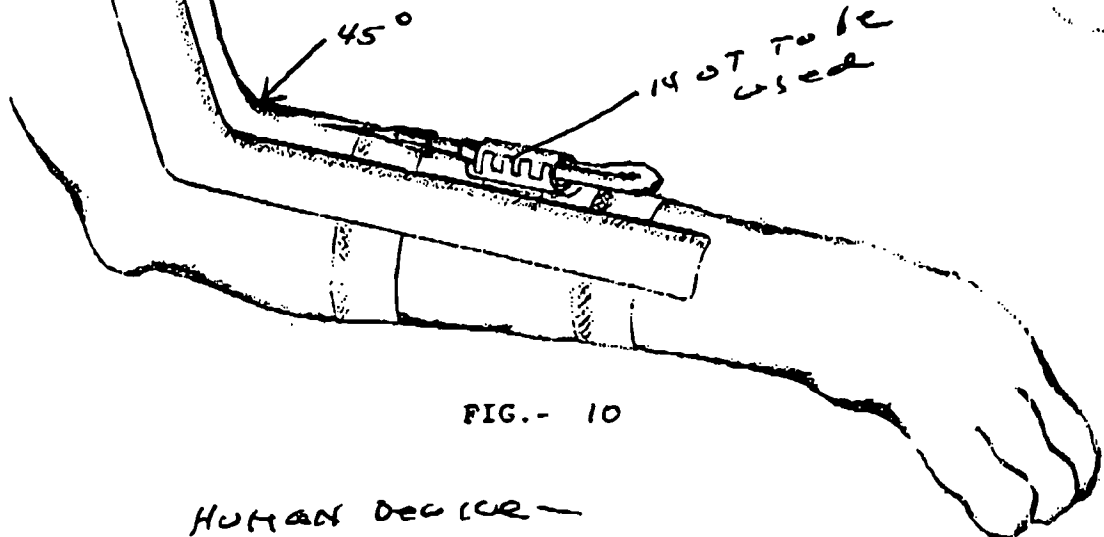
THE UNIVERSITY OF CHICAGO

19

1.3	1.5m	1.5m	1.5m
-----	------	------	------



SPLINT
device



HUMAN DEVICE —
DOES NOT WORK
IN ANIMALS

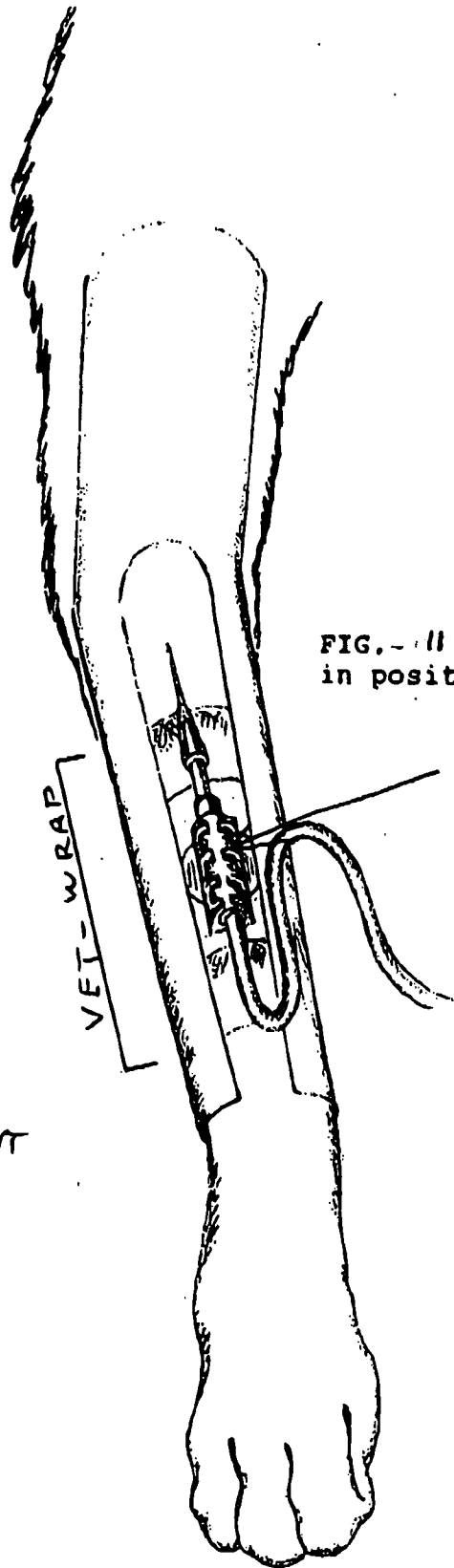


FIG. 11 Shows leg stabilizer in position.

NOT TO BE USED

VET-WRAP
AROUND SPINE
AND LEG